determining the type of retail service CLECs provide to end users when they purchase stand-alone[62] UNE-L and Enhanced Extended Loop ("EEL") services, these wholesale services are attributed to the "business" category in this summary.[63] It is important to note that the data in Highly Confidential Exhibit 2 excludes any CLEC access lines served via: (1) CLEC-owned loop and switching network facilities, (2) Special Access service purchased from Qwest, or (3) network facilities leased from non-Qwest providers, and therefore represents only a subset of CLEC lines in service in the Denver MSA.

23. To the extent CLECs are utilizing their own networks to serve residential and business customers in the Denver MSA, Qwest has no means to obtain precise in-service access line counts. However, Qwest does track the number of white pages listings, by rate center, for CLECs that are "facilities-based" (those utilizing CLEC-owned switches and loops, such as Comcast, and/or those utilizing CLEC-owned switches and unbundled loops or Special Access services purchased from Qwest), and Qwest can use this information to estimate the number of lines served by such CLECs.[64] Based on white pages listings data as of January 2007, there are approximately [redacted] business lines and [redacted] residential lines associated with facilities-based CLECs in the Denver MSA rate centers. Following is a brief overview of several CLECs now serving the Denver MSA, with particular emphasis on CLECs that utilize their own facilities.

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[62] In this context, "stand-alone" means UNE-L that is not purchased in conjunction with QPP or QLSP service.

[63] The bulk of UNE Loops are purchased by CLECs that market their services almost exclusively to business customers. Thus, it is reasonable to attribute UNE Loops to the business category.

[64] About 75% of Qwest's residential lines and 36% of its business lines are listed in the white pages directories. Qwest assumes the CLECs' customer bases will have similar listings per line ratios, and estimates facilities-based CLEC lines on this basis. Note that business customers often elect to list only their primary telephone number in the white pages directory, so that there are significantly more business lines than business white pages listings. To the extent customers of facilities-based CLECs do not request that their telephone numbers be included in the Qwest white pages listings database, these telephone numbers are not reflected in the facilities-based CLEC customer white pages listings at all.

24. AT&T, the largest telecom company in the U.S., offers a wide range of telecommunications services to all classes of residential, small business and enterprise business customers in the Denver MSA. According to its website, AT&T provides solutions designed to meet all personal communications needs (at home and on the go) as well as the needs of small, medium, large and global businesses and governmental entities. AT&T provides services throughout the Denver MSA, as illustrated by its Metropolitan Area Acquisition ("MAA") contract with the General Services Administration. This local services contract allows federal agencies in the Denver area to "take advantage of [AT&T's] advanced technologies, network reliability and competitive rates."[65] A map contained on the AT&T website shows that these services are available, via the MAA contract, to federal entities throughout most of the Denver MSA.[66]

AT&T is a significant provider of wireless services, and offers wholesale services to other carriers.[67] In addition, AT&T has expanded its product reach by offering its CallVantage VoIP service—which bypasses Qwest's switched voice network—to any customer in the Denver MSA with a broadband internet connection.[68] According to GeoTel, AT&T has over [redacted] route miles of fiber within the Denver MSA. This fiber may be used to

[65] http://att.com/gov/contracts/maas/availability/maas_cities_den.html See Exhibit 3, Page 1.

[66] *Id.*

[67] http://www.att.com/gen/landing-pages?pid=3308. See Exhibit 3, Page 2.

[68] http://www.consumer.att.com/ See Exhibit 3, Page 3.

provide a wide range of voice and data services to customers without relying on the purchase of Qwest wholesale services.[69]

25. Cbeyond Communications currently provides local telephone service, high-speed Internet access, domestic and international long distance service, mobile voice and data service, and a variety of business applications, including e-mail, web hosting and voice mail. Cbeyond focuses on serving small business customers along the Colorado "Front Range" from Fort Collins to Colorado Springs, including the Denver metropolitan area.[70] Services are provided over a managed VoIP network via a broadband T-1 facility that is connected to a Cbeyond-installed Integrated Access Device ("IAD"). Voice calls travel over a dedicated IP connection—not over the public Internet—allowing Cbeyond to manage the quality of service that is provided. According to Cbeyond, its network is "the network every traditional telephone company would build if they started today,"[71] which allows Cbeyond to offer:

- An integrated package of the communications tools that a small business needs – voice, high speed T-1 Internet access and IP-based applications such as e-mail, web hosting and VPN at affordable pricing.
- Advanced technology to manage available voice lines and data bandwidth over a full T-1, delivering maximum flexibility and the highest possible upload and download speeds.
- One network and one business support system to create a streamlined, seamless communications experience.[72]

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[69] GeoTel fiber route data, October 2006.

[70] http://www.cbeyond.com/services/index.htm; http://www.cbeyond.com/business/services-denver.php; and http://www.cbeyond.net/business/maps/denver-service.htm. See Exhibit 3, Page 4.

[71] http://www.cbeyond.com/cbeyond/cbeyond-technology-network.htm. See Exhibit 3, Page 7.

[72] *Id.*

Cbeyond's Denver-area growth is continuing at an impressive rate. According to Fourth Quarter 2006 Results released March 1 2007, Cbeyond's Denver market revenues grew by 17% between December 2005 and December 2006.[73]

26. *Eschelon is a major facilities-based CLEC providing services to small and* enterprise business customers in a number of markets in the western U.S., including the Denver MSA.[74] In describing its operations, Eschelon states:

> Eschelon Telecom, Inc. is a facilities-based competitive communications services provider of voice and data services and business telephone systems in 45 markets in the western United States. Headquartered in Minneapolis, Minnesota, the company currently employs approximately 1,400 telecommunications/Internet professionals, serves over 60,000 business customers and has in excess of 570,000 access lines in service throughout its markets in Arizona, California, Colorado, Minnesota, Montana, Nevada, Oregon, Utah and Washington.[75]

Eschelon offers a broad range of voice and data services to small and enterprise business customers, including local exchange service, digital T-1 services, digital PBX trunks, long distance service, integrated voice/data services and a wide range of features.[76] Additionally, in late 2005, Eschelon introduced its "Precision FlexPak" VoIP service, which is provided over its own managed network. By June 2006, Eschelon reported that its Precision FlexPak service was exceeding sales expectations and represented 37 percent

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[73] http://ir.cbeyond.net/ReleaseDetail.cfm?ReleaseID=232139. See Exhibit 3, Page 8.

[74] On March 20, 2007, Integra Telecom, Inc., announced that it has entered into an agreement to purchase Eschelon, *pending governmental and shareholder approvals expected in the third quarter of 2007.* At that time, Integra estimates that combined Integra/Eschelon revenues will be approximately $700 million annually and that the combined companies will "serve an average of 20 percent of the businesses in the metropolitan areas in which they operate," which includes the Denver MSA. Since this transaction has not been finalized, this declaration treats Eschelon as a separate entity. http://www.integratelecom.com/about/news/news_releases/2007/2007-03-20_news_release.asp. See Exhibit 3, page 18.

[75] http://www.eschelon.com/about_us/section_detail.aspx?itemID=8311&catID=220&SelectCatID=220. See Exhibit 3, Page 20.

[76] http://www.eschelon.com/voice/index.aspx and http://www.eschelon.com/internet/index.aspx. See Exhibit 3, Page 22.

of the company's total lines sold.[77] In November 2006, Eschelon announced that its percentage of backhaul facilities carried over company-owned fiber had reached 52 percent, and predicted that this percentage would continue to grow as the company initiated the next phase of its network expansion.[78]

27. McLeodUSA is a facilities-based CLEC providing a range of services to small and enterprise business customers in nearly 500 cities in 20 states. Based on the map posted to its website, McLeodUSA offers services to the following communities in the Denver MSA: Arvada, Aurora, Broomfield, Castle Rock, Denver, Englewood, Golden, Lakewood, Littleton, Northglenn, Parker, and Westminster.[79] McLeodUSA describes itself as a provider of "integrated solutions for:

- Traditional local and long-distance services (including VoIP);
- High-speed broadband Internet access (up to 60 Mbps);
- Data networking solutions (e.g., VPN services, facilities leasing)."[80]

McLeodUSA's current product offerings are the result of a major business strategy shift that was announced by the company in June 2006. At that time, McLeodUSA began focusing the company's offerings around dynamic IP-based integrated voice and data broadband solutions for single and multi-location small and enterprise businesses, which it manages over "one of the largest competitive, fiber-dense networks in the nation."[81] In

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[77] http://www.eschelon.com/about_us/section_detail.aspx?itemID=7588&catID=6885&SelectCatID=6885. See Exhibit 3, Page 24.

[78] http://www.eschelon.com/about_us/section_detail.aspx?itemID=8311&catID=220&SelectCatID=220. See Exhibit 3, Page 20.

[79] http://www.mcleodusa.com/CoverageArea.do. See Exhibit 3, Page 26.

[80] http://www.mcleodusa.com/CompanyInformation/CorporateProfile.do. See Exhibit 3, Page 27.

[81] http://www.mcleodusa.com/InvestorRelations/PressRoom.do - Press Release issued June 5, 2006. See Exhibit 3, Page 28.

addition to its new focus on IP integrated services, McLeodUSA stated that it was also "rapidly expanding its distribution channels and sales partners to help fuel market growth."[82] In October 2006, McLeodUSA introduced an expanded product suite of wholesale local voice and carrier data offerings, stating that it would leverage its "pervasive fiber-optic network" of 18,000 route miles and 650 central office collocations to provide both traditional and IP-based wholesale services.[83]

28. Level 3 is an international communications and information services company headquartered in Broomfield, Colorado, located within the Denver MSA. Traditionally, Level 3 has operated primarily as a major "carriers' carrier," offering wholesale telecom services to other communications providers. However, today Level 3 also offers a wide range of communications services to small and enterprise business customers, including Internet Protocol ("IP") services, broadband transport, collocation services, and patented Softswitch-based managed modem and voice services. Level 3 touts its scalable, cost-effective, state-of-the-art optical network as being "ideal for communications-intensive companies". The company also asserts that "few providers own the amount of available fiber infrastructure that Level 3 owns" and that as a consequence, "few can claim to be as accommodating of future customer growth."[84] Level 3 has dramatically increased its presence in the Denver MSA through its May 2006 acquisition of Denver-based ICG Communications, and its January 2007 acquisition of Broadwing Corporation.

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[82] *Id.*

[83] http://www.mcleodusa.com/InvestorRelations/PressRoom.do - Press Release issued October 9, 2006. See Exhibit 3, Page 31.

[84] http://www.level3.com/576.html. See Exhibit 3, Page 34.

In announcing completion of the ICG acquisition, Level 3 offered the following description of ICG:

> "ICG primarily provides transport, IP and voice services to wireline and wireless carriers, Internet service providers and enterprise customers. ICG's network has over 2,000 metro and regional fiber miles in Colorado and Ohio and includes approximately 500 points of presence. ICG serves more than 1,600 customers."

Level 3 further explained that the transaction would provide it with "the opportunity to further expand our footprint into areas where we see demand for our services" and noted that "ICG's business model fits nicely with the expansion of our metropolitan services offerings."[85]

Level 3 has established a specific marketing organization, the Level 3 Business Markets Group, to focus specifically on serving the small and enterprise business markets—a strategy that has been enhanced through Level 3's acquisition of Broadwing. Broadwing Corporation operated as a CLEC serving small and enterprise business customers in a variety of U.S. markets, including the Denver MSA. In discussing its Broadwing acquisition, Level 3 stated:

> The acquisition of Broadwing is consistent with both the Level 3 wholesale market strategy as well as our more recent entry into the enterprise market. We believe the combination of Level 3 and Broadwing will create value for our investors through the elimination of duplicative network and operating costs, the addition of a solid revenue base, and a further strengthening of our financial position. Broadwing has made great strides with national enterprise customers as a result of their strong product portfolio and national sales teams. This creates an exciting opportunity for us to leverage both of these capabilities to accelerate the growth of Level 3's Business Markets Group.[86]

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[85] http://www.level3.com/newsroom/pressreleases/2006/20060531.html. See Exhibit 3, Page 35.

[86] http://www.level3.com/newsroom/pressreleases/2006/20061017.html. See Exhibit 3, Page 36.

Level 3 has also partnered with Covad to deliver VoIP telecom services to the small and medium business market.[87] This Covad-branded service is now available to any Denver MSA customer with a broadband Internet connection, and represents a direct substitute for Qwest's retail voice services. With its acquisition of Broadwing, Level 3 now owns and operates a 39,500 mile fiber network,[88] including over [redacted] fiber miles in Qwest wire centers in the Denver MSA.[89]

29. Time Warner Telecom, headquartered within the Denver MSA in Littleton, Colorado, is a facilities-based CLEC with over 24,000 miles of fiber to serve customers in 22 states, including customers in the Denver and Colorado Springs MSAs.[90] Time Warner Telecom focuses on the small and enterprise business markets, offering a wide range of telecommunications services including business voice service, dedicated high capacity services, digital trunks, ISDN, long distance service, dedicated internet access, LAN services, etc.[91] Time Warner Telecom offers its business VoIP service, branded as TW Telecom One Solution, to small and medium business PBX customers via the Time Warner Telecom metro Ethernet system in various markets in the U.S., including Denver.[92] In announcing results for the fourth quarter of 2006, Time Warner Telecom

[87] http://www.level3.com/newsroom/pressreleases/2006/20060912a.html. See Exhibit 3, Page 39.

[88] http://www.level3.com/about_us/index.html. See Exhibit 3, Page 40.

[89] Source: GeoTel, October 2006.

[90] http://www.twtelecom.com/about_us/networks.html. See Exhibit 3, Page 42.

[91] http://www.twtelecom.com/cust_solutions/sm_med_biz_sol.html. See Exhibit 3, Page 44.

[92] Time Warner Telecom press release: *Time Warner Telecom Launches VoIP-Based Business Solutions Over Metro Ethernet*, February 23, 2005. See Exhibit 3, Page 45.

reported that it had grown enterprise business revenue by 43% year over year (including "organic growth" of 16%, with the remainder attributable to its acquisition of Xspedius Communications) and had grown data and Internet revenue by 40% year over year (including "organic growth" of 30%).[93] Time Warner Telecom also provides wholesale services to other telecom carriers, as described later in this declaration.

30. XO Communications is a significant provider of retail business and wholesale telecommunications services in the Denver MSA. XO describes itself as a "full-service provider of communications services for small and growing businesses, larger enterprises and carriers" that owns "a wealth of local fiber, DSL, fixed wireless, data networking, Internet and long-haul network assets."[94] Denver is among the 75 major U.S. metropolitan markets served by XO, and represents a major network node within XO's 18,000 mile national fiber network.[95,96] XO announced in October 2006 that it had aligned its businesses into two major segments—XO Business Services and XO Carrier Services—to reflect its focus on both retail and wholesale customers.[97] XO provides a wide range of local services for retail business customers, including basic voice business lines, business trunks, Centrex service, voice messaging, ISDN-PRI, directory assistance, foreign exchange service, long distance services, etc.[98] In addition to its traditional voice services, XO actively promotes its VoIP-based services provided via its XOptions Flex

[93] http://www.twtelecom.com/Documents/Announcements/News/2007/TWTC_q4_06_.pdf. See Exhibit 3, Page 47.

[94] http://www.xo.com/about/ourstory/index.html. See Exhibit 3, Page 60.

[95] http://telephonyonline.com/fttp/marketing/comptel_xo_wholesale_100906/. See Exhibit 3, Page 61.

[96] http://www.xo.com/about/network/maps/complete_normal.html. See Exhibit 3, Page 62.

[97] http://telephonyonline.com/fttp/marketing/comptel_xo_wholesale_100906/. See Exhibit 3, Page 61.

[98] http://www.xo.com/products/smallgrowing/voice/local/index.html. See Exhibit 3, Page 63.

product line.[99] In addition, Nextlink, XO's wireless broadband service division, now offers a wide range of wireless broadband private line services, including DS3, OC-3 and OC-12 services, to enterprise and wholesale customers in major U.S. markets including Denver. These offerings compete directly with high capacity services offered by Qwest.[100]

31. In the Denver MSA, the CLECs described above are squarely focused on delivering competitive local exchange services to an increasing share of retail customers, while at the same time *reducing their reliance on UNEs purchased from Qwest*. The CLECs are realizing this goal by self-provisioning network facilities (either by wireline or wireless means), purchasing network capacity from other carriers (described later in this declaration), or by purchasing finished services such as Qwest Platform Plus or Qwest Local Services Platform from Qwest via business-to-business contractual arrangements.

IV. SPECIAL ACCESS.

32. Special Access service can be utilized as a substitute for unbundled network elements. In fact, many landline-based competitors are purchasing Special Access services from Qwest today in order to serve customers in the Denver MSA. As of December 2006, competitors purchased Special Access circuits representing over [redacted]

[99] http://www.xo.com/products/smallgrowing/integrated/ . See Exhibit 3, Page 65.

[100] http://www.nextlink.com/livefiles/ServiceGroups/1/Service_Providers.pdf. See Exhibit 3, Page 66.

[redacted] Voice Grade Equivalent ("VGE") lines in the Denver MSA.[101] Of these VGEs, over [redacted] are based on DS1 Special Access, almost [redacted] are based on DS3 Special Access, and the remainder are based on OCn Special Access services. While Qwest does not have direct knowledge of the services CLECs provide to their customers via Special Access services, the fact that a significant proportion of Special Access services sold by Qwest to CLECs in the Denver MSA are at a DS1 and above level suggests that they are being utilized to serve enterprise customers, who typically have the need for a large number of access lines and/or telecommunications bandwidth capacity. The number of Voice Grade Equivalent circuits provided by competitors using Special Access services in the Denver MSA exceeds the number of VGE circuits provided by CLECs using unbundled network elements, Qwest Platform Plus and resale combined. In addition, revenues for Qwest Special Access provided to competitors in the Denver MSA for the month of August, 2006, were over [redacted]. It is clear that carriers are utilizing Special Access services very broadly in providing telecom services in the Denver MSA.

33. It is also worth noting that, while Special Access is provided by Qwest throughout the Denver MSA, competitive fiber has also been placed in most of these wire centers, as discussed in the following section of this declaration. This fiber can be used as an alternative to the purchase of Qwest Special Access services. In fact, over [redacted] of

[101] VGEs represent equivalent voice channels; for example, a DS1 is equivalent to 24 voice channels, a DS3 is equivalent to 672 voice channels, an OC3 is equivalent to 2016 voice channels, and an OC12 is equivalent to 8064 voice channels. Special Access data is drawn from Qwest's wholesale tracking systems and reflects data vintage December 2006.

the Special Access VGEs in the Denver MSA are in wire centers that also have competitive fiber in place.

V. FIBER-BASED COMPETITORS.

34. A significant amount of fiber optic cable has been placed by competitive service providers in the Denver MSA that can be used to bypass Qwest's network. According to GeoTel,[102] almost [redacted] miles of fiber (excluding fiber owned by Qwest and Qwest's affiliates) have been placed in the Denver MSA, and this fiber is owned by approximately 20 unaffiliated entities.[103] Based on the 2006 GeoTel data, at least one fiber-based competitor has facilities in [redacted] of Qwest's wire centers in the Denver MSA, and these wire centers contain [redacted] of Qwest's retail residential lines and [redacted] of Qwest's retail business lines in the MSA. In addition, non-Qwest fiber is now being used to serve almost [redacted] buildings in the Denver MSA.[104]

35. According to the GeoTel data, some of the most significant alternative telecom fiber providers in the Denver MSA are [redacted]

[102] According to GeoTel: "GeoTel Communications, Inc. is the leading provider of telecommunications infrastructure data in a geographic information system (GIS). GeoTel's unique business strategy implements and converges the mapping of telecommunications fiber and other telecommunications infrastructure with GIS technologies. These two items integrated into one digital data set gives leverage and insight into the competitive metropolitan fiber optic landscape across America." http://www.cmcstore.com/productcart/pc/viewCat_h.asp?idCategory=66.

[103] GeoTel continually works to update its data regarding fiber-based competitors and provides updated data approximately every six months. However, GeoTel does not possess complete data regarding each fiber-based competitor, and the data reported above is therefore likely understated. GeoTel data underlying the numbers above was provided to Qwest in October 2006.

[104] Source: GeoTel, October 2006.

[redacted].[105] Confidential Exhibit 4 shows the known fiber routes for 20 known entities with competitive fiber facilities in the Denver MSA. These fiber facilities can be used by Qwest's competitors to provide services that directly compete with a number of Qwest mass market and enterprise services, such as local exchange service, private line service, ISDN, local area networks, frame relay service, long distance services, etc. In this case, competitive services can be provided *without using the Qwest network.*

[105] *Id.*

VI. WIRELESS SERVICE COMPETITION.

36. Wireless phones are now widely accepted by business and residential customers alike for voice telephony. In addition, to bring additional functionality to their services and to attract new customers, wireless providers are now augmenting their services with data applications such as dial-up wireless Internet access, text messaging and image transmission. The customer shift toward wireless substitution in Colorado can be observed by reviewing the FCC's most recent Local Telephone Competition Report.[106] The FCC's data shows that total incumbent and CLEC wirelines in Colorado decreased from 3.092 million as of June 2000 to 2.805 million as of June 2006.[107] In contrast, wireless subscriber counts in Colorado grew from 1.655 million to 3.442 million between June 2000 and June 2006—an increase of 1.787 million or 108%. The number of wireless subscribers in Colorado now exceeds the combined number of ILEC and CLEC wireline access lines by a wide margin.[108] Clearly, wireless services are outpacing traditional wireline services in fulfilling many Coloradans' telecommunications needs.

37. In its most recent Commercial Mobile Radio Service ("CMRS") competition report,[109] the FCC provides data regarding the percentage of households that have "cut the

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[106] *Local Telephone Competition: Status as of June 30, 2006*, Industry Analysis and Technology Division, Wireline Competition Bureau, January 2007.

[107] *Id.*, Tables 9 and 10. This decrease occurred despite the fact that CLEC lines increased from 204,608 in June 2000 to 528,727 in June 2006.

[108] *Id.*, Table 14.

[109] Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Tenth Report, September 29, 2006.

cord" (i.e., have disconnected wireline telephone service and now rely exclusively on wireless service for their voice telecommunications needs). The FCC states:

> Wireless substitution has grown significantly in recent years. According to a 2005 National Health Interview Survey (NHIS), 7.8 percent of adults lived in households with only wireless phones in the second half of 2005, up from 5.5 percent in the first half of 2004 and 3.5 percent in the first half of 2003.[110]

The FCC's data clearly show a significant increase in the proportion of wireless subscribers who have "cut the cord," and there is no sign that this trend is abating, but rather, it is continuing its inexorable upward pace—driven by the omnipresence, increasing functionality and affordable prices of wireless telephones. In fact, the National Center for Health Statistics—the research source for the data relied upon by the FCC to assess wireless substitution—recently released an updated report showing that the proportion of households that have "cut the cord" has increased to 9.6% as of June 2006, continuing the steady upward trend observed since 2003.[111] However, this data tells only part of the story. In many instances, subscribers remove a second landline in favor of wireless service and/or shift a significant amount of telephone usage to their wireless service. In each of these instances, demand for Qwest wireline telephone service is reduced, even though the customers have not yet disconnected their wireline telephone service entirely. The FCC states:

> Even when not "cutting the cord" completely, consumers appear increasingly to choose wireless service over traditional wireline service, particularly for certain uses. For example, according to one analyst, customers in nearly a third of American households make at least half their long distance calls at home from their cell phones rather than from their landlines. In the early 2006 survey of cellphone users described above, an

[110] *Id.*, Page 89, ¶205.

[111] http://www.cdc.gov/nchs/products/pubs/pubd/hestats/wireless2006/wireless2006.htm. See Exhibit 5, Page 1.

> additional 42 percent of cellphone users said that they also had a landline phone, but that they used their cellphones "most."[112]

This data provides undeniable evidence that wireless service subscribers are using wireless service as a direct substitute for traditional wireline telephone services.

38. Other independent experts that have studied the phenomenon of wireless substitution echo the FCC's conclusions. For example, the Yankee Group reports that "51% of local calls and 68% of long distance calls have been replaced by wireless."[113] In October 2006, Telephia released results of its primary research conducted during Second Quarter 2006 showing the rate of wireless substitution in large metropolitan areas in the United States, including the Denver metropolitan area. Telephia found that 11.3% of the survey respondents in the Denver area reported that they had cut the cord—a percentage that translates to over 119,000 Denver area households.[114] In short, there is no evidence that the rate of substitution of wireless service for traditional wireline service is diminishing. Rather, all evidence demonstrates that such substitution will continue to increase at a robust rate.

39. Competitive wireless service is now available to the vast majority of customers in Qwest's Denver MSA service territory from at least one (and usually several) of the major wireless carriers, including Sprint PCS, T-Mobile, Verizon, AT&T (f/k/a Cingular) and

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[112] Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Tenth Report, September 29, 2006, P. 90, ¶206.

[113] *2006 U.S. Technologically Advanced Family Survey*, The Yankee Group, September 2006.

[114] http://www.telephia.com/html/documents/TotalCommunications_000.pdf, October 18, 2006. See Exhibit 5, Page 4.

Cricket.[115] Exhibit 5, page 7, displays the wireless coverage areas for the carriers serving the Denver MSA, based on a conservative mapping of a five mile coverage footprint around each known cellular tower.[116] Wireless services now provide functionality nearly identical to wireline service from the perspective that both provide switched voice communication capability, access to directory assistance, access to popular calling features (such as call waiting, three-way calling, caller I.D., voice messaging, etc.), access to operator services, number portability (e.g., customers may now port a wireline telephone number to a wireless carrier and vice versa) and access to E911 service.

40. Wireless broadband ("WiFi") service represents another form of radio-based competition that is now actively deployed in many communities within Qwest's Denver MSA service territory.[117] According to Travel Island, which identifies active public WiFi locations for travelers, WiFi service is now available in over 83 locations within the Denver MSA, including locations in Arvada, Aurora, Broomfield, Castle Rock, Denver, Englewood, Evergreen, Glendale, Golden, Greenwood Village, Highlands Ranch, Lakewood, Littleton, Lone Tree, Parker, Thornton and Westminster.[118] In any of these locations, users can utilize a WiFi connection to access the internet and use VoIP services to make and receive telephone calls without reliance on Qwest's local network. In other words, WiFi services represent yet another physical "communications pipe" into homes

[115] Other smaller wireless carriers, such as Alltel, also serve the Denver MSA (see http://www.alltel.com/personal/wireless/plans/nf_coverage_map.html). See Exhibit 5, Page 6.

[116] Depending on local conditions, cellular reception is viable at distances as great as 30 miles from the cellular tower (source: http://en.wikipedia.org/wiki/Cell_site). Thus, for example, customers in Bailey Colorado that reside outside the 5 mile radius can still purchase wireless services. Mapping based on 2006 data obtained by research firm GeoResults. See Exhibit 5, Page 7.

[117] WiFi is a precursor to WiMAX service, which will have a much greater coverage area around each transmitter.

[118] http://www.travel-island.com/travel_wireless/us_Colorado.html. See Exhibit 5, Page 8.

and businesses in the Denver MSA. This technology continues to be aggressively deployed. For example, in April 2006, the Downtown Denver Partnership began offering free WiFi along the 16th Street Mall in downtown Denver.[119] The service, which was installed and is maintained by Broomfield-based Kiva Networks, provides up to two hours of free usage per 24 hour period with additional usage available for a fee. In addition, in September 2006, a group of ten west Denver metro communities – seven of which are within the Denver MSA – announced the planned creation of one of the largest regional WiFi networks in the country. Known as the Colorado Wireless Communities network, it will be a privately funded and operated network that will "blanket each of the 10 cities, an area that covers about 220 square miles and more than 600,000 people."[120]

41. The Denver area is home to many wireless innovators. For example, WavMax Broadband, headquartered in Littleton, Colorado, delivers commercial-quality wireless broadband access to the internet via secure radio frequency (RF) transmission and offers "an array of low cost carrier-quality IP services including data, voice, video . . . and worldwide internet roaming to the wholesale and business markets."[121] WavMax's coverage area includes at least 25 communities in the Denver metro and Castle Rock areas.[122] In describing its rapid growth, WavMax states:

> In the five years since the company's creation, WavMax has successfully executed its strategy to deploy a widespread, carrier class, affordable wireless broadband

[119] http://www.denverpost.com/frontpage/ci_3721605. See Exhibit 5, page 13.

[120] http://www.denverpost.com/ci_4401357?source=rss. See Exhibit 5, page 15.

[121] http://www.wavmax.com/about_us/index.htm. See Exhibit 5, page 17.

[122] http://www.wavmax.com/coverage_maps/map_denver.htm and http://www.wavmax.com_maps/map_castle_rock.htm. See Exhibit 5, page 18.

network to effectively address the wholesale market and offers a "last mile" solution to commercial customers to gain access to the Western Region.[123]

WavMax also offers VoIP service, with prices starting at $35 "per seat" per month for local service and unlimited long distance calling. The product and service offerings from WavMax Broadband integrate WiFi and wireless VoIP technologies for small business and enterprise business customers, as well as wholesale customers, representing yet another facilities-based substitute for Qwest business telecom services.

42. Qwest does not maintain that wireless service is viewed by every customer in the Denver MSA as a complete substitute for traditional wireline service. A certain number of customers will never switch from wireline service to wireless service no matter how attractive wireless service becomes. However, it is clear that when current facts regarding functionality (for voice as well as data/internet applications), price and convenience are examined, wireless service now represents a viable and direct substitute for Qwest's wireline services for many Coloradans. It is equally clear that wireless substitution is occurring today, and that the rate of such substitution will continue to increase. Wireless competition continues to grow in intensity and now represents significant price constraining competition in the Colorado telecom market.

VII. VOIP COMPETITION.

43. VoIP service, which is typically offered as a package that includes unlimited local and long distance service plus an array of calling features, is now readily available from a

[123] http://www.wavmax.com/about_us/index.htm. See Exhibit 5, page 17.

broad range of providers to any residence or business customer in the Denver MSA that has broadband internet access.[124] As a preliminary matter, some parties contend that VoIP service is significantly more expensive than traditional landline service because a broadband connection is required. However, this precept incorrectly implies that a customer purchases broadband service solely to facilitate VoIP. In fact, most customers purchase broadband services primarily for internet access and entertainment purposes, not simply to facilitate VoIP. For these customers, there is no incremental cost for broadband when they elect to add VoIP telephone service via the preexisting broadband internet connection, and the cost of broadband is therefore not a factor in their VoIP purchase decision.

44. According to the FCC, broadband access lines in Colorado have grown from 61,408 in June 2000 to 1,165,853 in June 2006—an increase of almost 1,800%.[125] In fact, in the first six months of 2006 alone, broadband access lines in Colorado increased by 32%.[126] As of June 2006, approximately 41% of the broadband access lines in Colorado were served by cable modem.[127] The FCC found that "more than 99% of the country's population lives in the 99% of zip codes where a provider reports having at least one high-speed service subscriber,"[128] and that every zip code in Colorado has at least one

[124] Broadband internet access is now available from a number of sources, including cable modem service, digital subscriber line, wireless broadband and satellite.

[125] *High Speed Services for Internet Access: Status as of June 30, 2006*, Industry Analysis and Technology Division, Wireline Competition Bureau, January 2007, Table 10.

[126] *Id.*

[127] *Id.*, Table 9.

[128] *Id.*, Page 4.

broadband service provider available as of June 2006.[129] Competitive broadband services are now widely available from multiple providers in the Denver MSA, and have been embraced by a rapidly increasing number of customers. Each broadband customer represents a potential VoIP subscriber.

45. Currently, there are at least 60 VoIP providers serving the Denver MSA, including Verizon, AT&T, Vonage, Speakeasy, Cordia, Packet8, SunRocket, SageVone, ITP and many others. Some of these providers, such as Packet8, SageVone, and ITP offer service options for both the residential and business markets, while others, such as Speakeasy and SunRocket, focus primarily on the residential market.[130] Vonage, which is probably the most recognized independent residential VoIP provider, recently announced that in just over two years its customer base has rapidly grown to over 2 million subscribers in the U.S.[131] Since VoIP calls don't rely on Qwest's switched network and calls transported via non-Qwest broadband facilities don't rely on Qwest's local loop network, the rapid customer VoIP adoption rate represents an increasingly significant form of network bypass competition.

46. IP5280 Communications is a VoIP provider focusing solely on the business market within the Denver MSA. IP5280 is a "Denver-owned and operated next-generation communications company, specializing in VoIP and converged IP voice and

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[129] *Id*, Table 17.

[130] http://www.voipreview.org/service.all2.aspx?provider=0&Country=0&Area_Code=303&serviceType=1&pg=1&sort_exp=ProviderName%20asc . See Exhibit 6, Page 1.

[131] http://pr.vonage.com/releasedetail.cfm?ReleaseID=209928. See Exhibit 6, Page 17.

data services."[132] IP5280 offers a wide selection of VoIP services, including its Business IP Trunking to Hosted VoIP Services that is targeted to enterprise business customers. IP5280 describes the advantages afforded by its Business IP Trunking service:

> " . . . IP5280 also offers easy-to-use and implement IP Trunking solutions that provide advanced VoIP features to existing PBX phone systems. IP Trunking provides the same unlimited local and long distance calling features as Hosted VoIP, and maintains all of your current PBX functionality without the cost and hassle of replacing your phone system. Replace your PRI connections and eliminate local and long distance charges with an integrated voice and data broadband connection."[133]

Through strategic partnerships with companies such as cable giant Comcast, ICG, premier collocation provider Data393 and others, IP5280 is well positioned to meet the demands of mid-sized and large enterprise businesses. Moreover, IP5280 has been expanding its operations through key acquisitions. In announcing its most recent acquisition in November 2006, IP5280 stated:

> "IP5280 Communications, Colorado's business VoIP specialists, and GoXpand, a broadband services provider delivering connectivity to in-building fiber, announced today the transfer of ownership of GoXpand's commercial business VoIP customer base to IP5280. This is IP5280's third acquisition of assets since the beginning of the year, furthering its expansion plan of business customers across the Colorado market."[134]

GoXpand is further described in this announcement as "a fiber network access services provider delivering interconnection from selected buildings across Denver metro to existing fiber backbone infrastructures."[135] IP5280 also recently announced an agreement with WavMax, a regional wireless broadband provider of voice video and data services

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[132] http://www.ip5280.com/aboutus.html. See Exhibit 6, Page 18.

[133] http://www.ip5280.com/busiptrnk.html. See Exhibit 6, Page 19.

[134] http://www.ip5280.com/goxpandvoip.html. See Exhibit 6, Page 20.

[135] *Id.*

described earlier in this declaration.[136] These two Denver-based companies are teaming up to provide "a portfolio of wireless broadband VoIP services to small and mid-size business customers across Colorado."[137] In addition, WavMax's "trademarked, industry leading" SkyFiber™ wireless network offers wholesale customers the needed bandwidth to deploy VoIP.[138]

47. SimpleSignal, a full-service business VoIP provider, is identified by IP5280 as yet another one of its strategic partners. SimpleSignal is headquartered in Southern California, with a second location in Englewood, Colorado.[139] SimpleSignal describes itself as follows:

> "SimpleSignal is a facilities-based complete network provider of business VoIP. The company's enterprise-grade service is designed specifically for small to medium sized businesses, combining voice and data, hosted PBX, long distance and conferencing into one powerful, cost effective communications solution. SimpleSignal delivers more capabilities than on-premise PBX systems, with greater flexibility, simplicity, and personalized service. Now businesses of any size can leverage the power of advanced IP communications technology, improving business productivity, while significantly reducing overall telecom costs."[140]

SimpleSignal, IP5280 Communications, and WavMax are just three examples of the many VoIP providers that are aggressively competing with Qwest for small and large business customers in the Denver MSA.

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[136] http:www.ip5280.com/wavmax.html. See Exhibit 6, Page 21.

[137] *Id.*

[138] http://www.wavmax.com/wholesale/index.htm. See Exhibit 6, Page 22.

[139] http://www.simplesignal.com/contact.html. See Exhibit 6, Page 23.

[140] http://www.simplesignal.com/press-releases.html. See Exhibit 6, Page 24.

48. While VoIP providers such as Vonage are currently reporting impressive subscriber totals, industry experts forecast exponential VoIP growth in the future. For example, Frost and Sullivan found that VoIP market revenue totaled $295.1 million in 2004, and they expect revenues to reach $4.1 *billion* in 2010—*a growth rate of over 1,200%.*[141] As noted earlier, the broadband connections that enable VoIP service have increased significantly to date, and that growth is expected to continue. The Yankee Group found that roughly 44% of all U. S. households now subscribe to broadband internet access service, and that proportion is expected to increase to over 58% by 2010.[142]

With respect to VoIP in the business markets, Infonetics Research, a major research firm specializing in data networking and telecommunications issues, released a study in May 2006 that found:

- 36% of large, 23% of medium and 14% of small North American organizations interviewed were already using VoIP products and services in 2005.
- Almost half of small and two-thirds of large organizations in North America will be using VoIP products and services by 2010.[143]

Thus, leading industry analysts predict seismic changes in the structure of the competitive mass market and enterprise telecom markets in the U.S., with a significant shift away from traditional wireline telephone services and toward intermodal services such as VoIP.

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[141] Real World Network, Trend and Forecasts, North American Residential VoIP Market to Increase Growth, July 19, 2005. See Exhibit 6, Page 31.

[142] *2006 U.S. Consumer Fixed Line Forecast*, The Yankee Group, January, 2007.

[143] http://www.infonetics.com/resources/upna06.ipv.nr.shtml. See Exhibit 6, Page 33.

49. In the past, a lack of reliable access to 911 emergency service providers was often mentioned as a reason not to consider VoIP services as a viable direct substitute for traditional wireline service. However, this issue has been largely resolved with regard to VoIP customers at fixed locations. The primary remaining VoIP E911 issue currently being addressed by the industry is the problem of "nomadic" E911, involving instances where customers transport their VoIP phone equipment to a location other than the location at which the equipment is registered and attempt to place an E911 call from the remote location.[144] Unless the VoIP provider is notified that the customer has changed locations, the E911 call will show the name and address of the location at which the VoIP equipment was originally registered. For example, if customer John Smith registers his VoIP equipment at 123 Main Street in Denver, but subsequently takes his VoIP equipment with him on a business trip to Chicago where he places an E911 call without notifying his VoIP service provider of the new location, the E911 operator will recognize his call as originating at 123 Main Street in Denver. However, if the customer is not "nomadic" and simply uses his or her VoIP equipment at a fixed location as a landline phone replacement (and has properly notified the VoIP provider of the address of the fixed location), 911 calls from that fixed location are recognized by the E911 operator as originating from the location at which the VoIP service was initially registered.

In an article in USA Today, AT&T discussed a solution it has devised to address the problem of nomadic VoIP:

[144] The FCC ordered all VoIP providers to make their VoIP services fully 911-capable by November 28, 2005, particularly in instances where the customer is "nomadic."